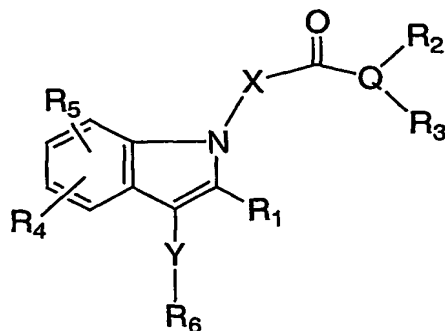


WHAT IS CLAIMED IS:

1. A compound of the structural formula I:



Formula I

or a pharmaceutically acceptable salt, enantiomer, diastereomer or mixture thereof:  
wherein,

R represents hydrogen, or C<sub>1-6</sub> alkyl;

R<sub>1</sub> represents hydrogen or C<sub>1-6</sub> alkyl, CF<sub>3</sub>, C<sub>1-6</sub> alkoxy, COR<sup>c</sup>, CO<sub>2</sub>R<sub>8</sub>,  
CONHCH<sub>2</sub>CO<sub>2</sub>R, N(R)<sub>2</sub>, said alkyl and alkoxy optionally substituted with 1-3  
groups selected from R<sup>b</sup>;

X represents -(CHR<sup>7</sup>)<sub>p</sub>-;

Y is not present, -CO(CH<sub>2</sub>)<sub>n</sub>-, or -CH(OR)-;

Q represents N, CRY, or O, wherein R<sub>2</sub> is absent when Q is O;

R<sub>Y</sub> represents H, or C<sub>1-6</sub> alkyl;

R<sub>w</sub> represents H, C<sub>1-6</sub> alkyl, -C(O)C<sub>1-6</sub> alkyl, -C(O)OC<sub>1-6</sub> alkyl, -SO<sub>2</sub>N(R)<sub>2</sub>, -  
SO<sub>2</sub>C<sub>1-6</sub> alkyl, -SO<sub>2</sub>C<sub>6-10</sub> aryl, NO<sub>2</sub>, CN or -C(O)N(R)<sub>2</sub>;

R<sub>2</sub> represents hydrogen, C<sub>1-10</sub> alkyl, C<sub>1-6</sub> alkylSR, -(CH<sub>2</sub>)<sub>n</sub>O(CH<sub>2</sub>)<sub>m</sub>OR, -(CH<sub>2</sub>)<sub>n</sub>C<sub>1-6</sub> alkoxy, -(CH<sub>2</sub>)<sub>n</sub>C<sub>3-8</sub> cycloalkyl, -(CH<sub>2</sub>)<sub>n</sub>C<sub>3-10</sub> heterocyclyl, -(CH<sub>2</sub>)<sub>n</sub>C<sub>5-10</sub> heteroaryl, -N(R)<sub>2</sub>, -COOR, or -(CH<sub>2</sub>)<sub>n</sub>C<sub>6-10</sub> aryl, said alkyl, heterocyclyl, aryl or heteroaryl optionally substituted with 1-3 groups selected from R<sup>a</sup>;

R<sub>3</sub> represents hydrogen, C<sub>1-10</sub> alkyl, -(CH<sub>2</sub>)<sub>n</sub>C<sub>3-8</sub> cycloalkyl, -(CH<sub>2</sub>)<sub>n</sub>C<sub>3-10</sub> heterocyclyl, -(CH<sub>2</sub>)<sub>n</sub>C<sub>5-10</sub> heteroaryl, -(CH<sub>2</sub>)<sub>n</sub>COOR, -(CH<sub>2</sub>)<sub>n</sub>C<sub>6-10</sub> aryl, -(CH<sub>2</sub>)<sub>n</sub>NHR<sub>8</sub>, -(CH<sub>2</sub>)<sub>n</sub>N(R)<sub>2</sub>, -(CH<sub>2</sub>)<sub>n</sub>NHCOOR, -(CH<sub>2</sub>)<sub>n</sub>N(R<sub>8</sub>)CO<sub>2</sub>R, -(CH<sub>2</sub>)<sub>n</sub>N(R<sub>8</sub>)COR, -(CH<sub>2</sub>)<sub>n</sub>NHCOR, -(CH<sub>2</sub>)<sub>n</sub>CONH(R<sub>8</sub>), aryl, -(CH<sub>2</sub>)<sub>n</sub>C<sub>1-6</sub> alkoxy, CF<sub>3</sub>, -(CH<sub>2</sub>)<sub>n</sub>SO<sub>2</sub>R, -(CH<sub>2</sub>)<sub>n</sub>SO<sub>2</sub>N(R)<sub>2</sub>, -(CH<sub>2</sub>)<sub>n</sub>CON(R)<sub>2</sub>, -(CH<sub>2</sub>)<sub>n</sub>CONHC(R)<sub>3</sub>, -(CH<sub>2</sub>)<sub>n</sub>COR<sub>8</sub>, nitro, cyano or halogen, said alkyl, alkoxy, heterocyclyl, aryl or heteroaryl optionally substituted with 1-3 groups of R<sup>a</sup>;

or, when Q is N, R<sub>2</sub> and R<sub>3</sub> taken together with the intervening N atom form a 4-10 membered heterocyclic carbon ring optionally interrupted by 1-2 atoms of O, S, C(O) or NR, and optionally having 1-4 double bonds, and optionally substituted by 1-3 groups selected from R<sup>a</sup>;

R<sub>4</sub> and R<sub>5</sub> independently represent hydrogen, C<sub>1-6</sub> alkoxy, OH, C<sub>1-6</sub> alkyl, COOR, SO<sub>3</sub>H, O(CH<sub>2</sub>)<sub>n</sub>N(R)<sub>2</sub>, O(CH<sub>2</sub>)<sub>n</sub>CO<sub>2</sub>R, C<sub>1-6</sub> alkylcarbonyl, S(O)<sub>q</sub>R<sub>j</sub>, OPO(OH)<sub>2</sub>, CF<sub>3</sub>, N(R)<sub>2</sub>, nitro, cyano or halogen;

R<sub>6</sub> represents hydrogen, C<sub>1-10</sub> alkyl, -(CH<sub>2</sub>)<sub>n</sub>C<sub>6-10</sub> aryl, -(CH<sub>2</sub>)<sub>n</sub>C<sub>5-10</sub> heteroaryl, (C<sub>6-10</sub> aryl)O-, -(CH<sub>2</sub>)<sub>n</sub>C<sub>3-10</sub> heterocyclyl, -(CH<sub>2</sub>)<sub>n</sub>C<sub>3-8</sub> cycloalkyl, -COOR, -C(O)CO<sub>2</sub>R, said aryl, heteroaryl, heterocyclyl and alkyl optionally substituted with 1-3 groups selected from R<sup>a</sup>;

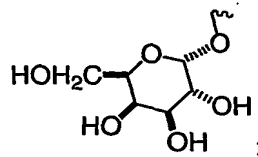
R<sub>7</sub> represents hydrogen, C<sub>1-6</sub> alkyl, -(CH<sub>2</sub>)<sub>n</sub>COOR or -(CH<sub>2</sub>)<sub>n</sub>N(R)<sub>2</sub>.

R<sub>8</sub> represents -(CH<sub>2</sub>)<sub>n</sub>C<sub>3-8</sub> cycloalkyl, -(CH<sub>2</sub>)<sub>n</sub>C<sub>3-10</sub> heterocyclyl, C<sub>1-6</sub> alkoxy or -(CH<sub>2</sub>)<sub>n</sub>C<sub>5-10</sub> heteroaryl, said heterocyclyl, aryl or heteroaryl optionally substituted with 1-3 groups selected from R<sup>a</sup>;

R<sup>a</sup> represents F, Cl, Br, I, CF<sub>3</sub>, N(R)<sub>2</sub>, NO<sub>2</sub>, CN, -COR<sub>8</sub>, -CONHR<sub>8</sub>, -CON(R<sub>8</sub>)<sub>2</sub>, -O(CH<sub>2</sub>)<sub>n</sub>COOR, -NH(CH<sub>2</sub>)<sub>n</sub>OR, -COOR, -OCF<sub>3</sub>, -NHCOR, -SO<sub>2</sub>R, -SO<sub>2</sub>NR<sub>2</sub>, -SR, (C<sub>1</sub>-C<sub>6</sub> alkyl)O-, -(CH<sub>2</sub>)<sub>n</sub>O(CH<sub>2</sub>)<sub>m</sub>OR, -(CH<sub>2</sub>)<sub>n</sub>C<sub>1-6</sub> alkoxy, (aryl)O-, -OH, (C<sub>1</sub>-C<sub>6</sub> alkyl)S(O)<sub>m</sub>-, H<sub>2</sub>N-C(NH)-, (C<sub>1</sub>-C<sub>6</sub> alkyl)C(O)-, (C<sub>1</sub>-C<sub>6</sub> alkyl)OC(O)NH-, -(C<sub>1</sub>-C<sub>6</sub>

- 5 alkyl)NR<sub>w</sub>(CH<sub>2</sub>)<sub>n</sub>C<sub>3-10</sub> heterocyclyl-R<sub>w</sub>, -(C<sub>1</sub>-C<sub>6</sub> alkyl)O(CH<sub>2</sub>)<sub>n</sub>C<sub>3-10</sub> heterocyclyl-R<sub>w</sub>, -(C<sub>1</sub>-C<sub>6</sub> alkyl)S(CH<sub>2</sub>)<sub>n</sub>C<sub>3-10</sub> heterocyclyl-R<sub>w</sub>, -(C<sub>1</sub>-C<sub>6</sub> alkyl)-C<sub>3-10</sub> heterocyclyl-R<sub>w</sub>, -(CH<sub>2</sub>)<sub>n</sub>-Z<sup>1</sup>-C(=Z<sup>2</sup>)N(R)<sub>2</sub>, -(C<sub>2-6</sub> alkenyl)NR<sub>w</sub>(CH<sub>2</sub>)<sub>n</sub>C<sub>3-10</sub> heterocyclyl-R<sub>w</sub>, -(C<sub>2-6</sub> alkenyl)O(CH<sub>2</sub>)<sub>n</sub>C<sub>3-10</sub> heterocyclyl-R<sub>w</sub>, -(C<sub>2-6</sub> alkenyl)S(CH<sub>2</sub>)<sub>n</sub>C<sub>3-10</sub> heterocyclyl-R<sub>w</sub>, -(C<sub>2-6</sub> alkenyl)-C<sub>3-10</sub> heterocyclyl-R<sub>w</sub>, -  
 10 (C<sub>2-6</sub> alkenyl)-Z<sup>1</sup>-C(=Z<sup>2</sup>)N(R)<sub>2</sub>, -(CH<sub>2</sub>)<sub>n</sub>SO<sub>2</sub>R, -(CH<sub>2</sub>)<sub>n</sub>SO<sub>3</sub>H, -(CH<sub>2</sub>)<sub>n</sub>PO(OR)<sub>2</sub>, cyclohexyl, morpholinyl, piperidyl, pyrrolidinyl, thiophenyl, phenyl, pyridyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, isothiazolyl, C<sub>2-6</sub> alkenyl, and C<sub>1</sub>-C<sub>10</sub> alkyl, said alkyl, alkenyl, alkoxy, phenyl, pyridyl, imidazolyl, oxazolyl, isoxazolyl, thiazolyl, thienyl, furyl, and isothiazolyl optionally substituted with 1-3  
 15 groups selected from C<sub>1</sub>-C<sub>6</sub> alkyl, CN, (CH<sub>2</sub>)<sub>n</sub>tetrazolyl, COOR, SO<sub>3</sub>H, OH, F, Cl,

Br, I, -O(CH<sub>2</sub>)<sub>n</sub>CH(OH)CH<sub>2</sub>SO<sub>3</sub>H, and



Z<sup>1</sup> and Z<sup>2</sup> independently represents NR<sub>w</sub>, O, CH<sub>2</sub>, or S;

- 20 R<sup>b</sup> represents C<sub>1-6</sub> alkyl, -COOR, -SO<sub>3</sub>R, -OPO(OH)<sub>2</sub>, -(CH<sub>2</sub>)<sub>n</sub>C<sub>6-10</sub> aryl, or -(CH<sub>2</sub>)<sub>n</sub>C<sub>5-10</sub> heteroaryl;  
 R<sup>c</sup> represents hydrogen, C<sub>1-6</sub> alkyl, or -(CH<sub>2</sub>)<sub>n</sub>C<sub>6-10</sub> aryl;  
 m is 0-3;  
 n is 0-3;  
 25 q is 0-2; and  
 p is 0-1.

2. A compound of the structural formula I wherein X represents CHR<sub>7</sub>.

3. A compound according to claim 1 wherein Y is -CO(CH<sub>2</sub>)<sub>n</sub>.

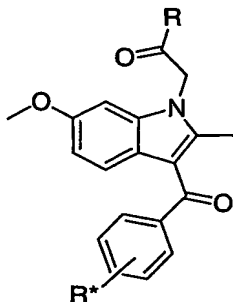
4. A compound according to claim 1 wherein Y is CH(OR).
5. A compound according to claim 1 wherein Q is N.
- 5 6. A compound according to claim 1 wherein Q is CH.
7. A compound according to claim 2 wherein R<sub>6</sub> is (CH<sub>2</sub>)<sub>n</sub>C<sub>6-10</sub> aryl, (CH<sub>2</sub>)<sub>n</sub>C<sub>5-10</sub> heteroaryl, (CH<sub>2</sub>)<sub>n</sub>C<sub>3-10</sub> heterocyclyl, or (CH<sub>2</sub>)<sub>n</sub>C<sub>3-8</sub> cycloalkyl,  
10 said aryl, heteroaryl, heterocyclyl and alkyl optionally substituted with 1 to 3 groups of R<sup>a</sup>.
8. A compound according to claim 6 wherein R<sub>7</sub> is hydrogen or  
15 C<sub>1-6</sub> alkyl.
9. A compound according to claim 6 wherein Q is N and n is 0.
10. A compound according to claim 1 wherein Y is -CO(CH<sub>2</sub>)<sub>n</sub>, Q  
is N, n is 0, R<sub>2</sub> is C<sub>1-10</sub> alkyl or C<sub>1-6</sub> alkylOH and R<sub>3</sub> is (CH<sub>2</sub>)<sub>n</sub>C<sub>3-10</sub> heterocyclyl,  
20 said heterocyclyl and alkyl optionally substituted with 1 to 3 groups of R<sup>a</sup>.
11. A compound selected from Tables 1 through 14 which is:

25

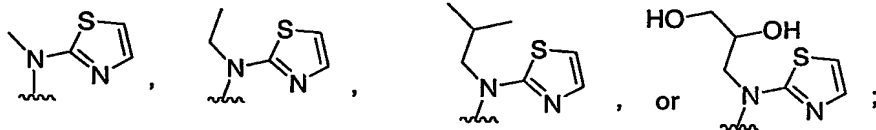
30

5

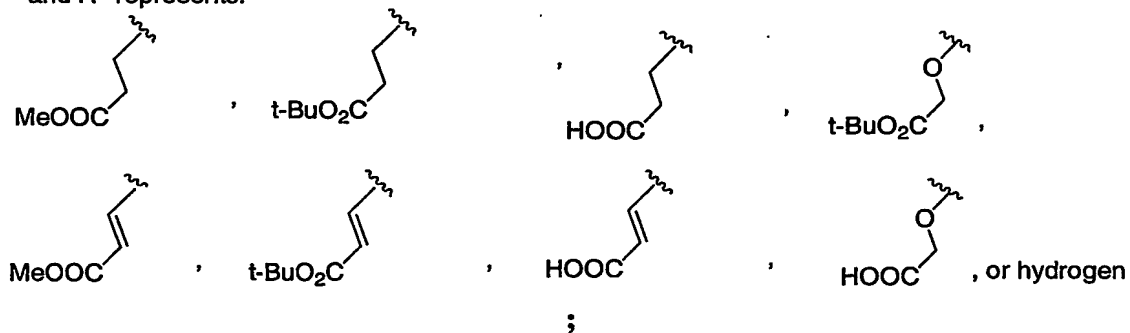
Table 1



Wherein R represents:



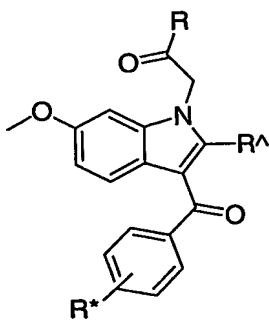
and R\* represents:



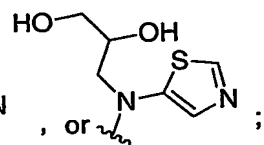
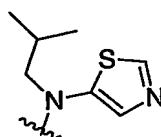
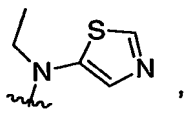
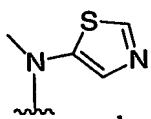
10

5

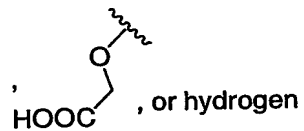
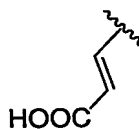
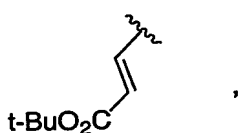
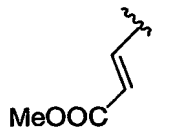
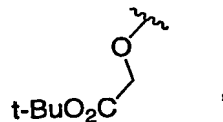
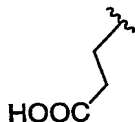
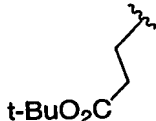
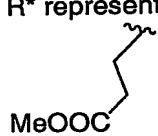
Table 2



Wherein R represents:



R\* represents:

and R<sup>^</sup> represents hydrogen or methyl

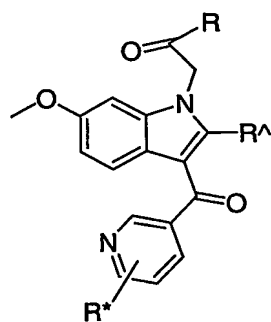
;

10

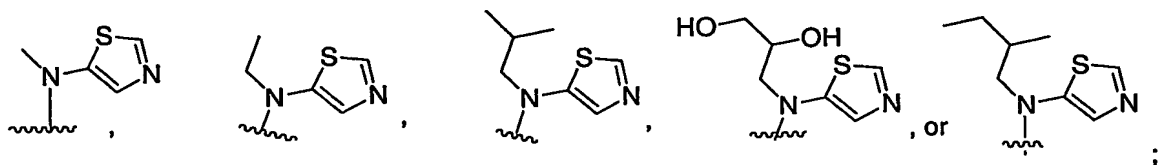
5

Table 3

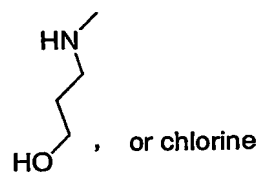
10



Wherein R represents:

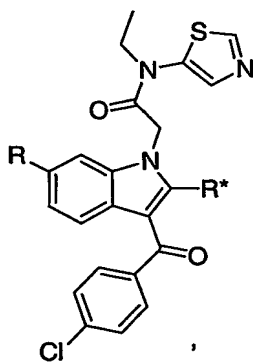


R\* represents:

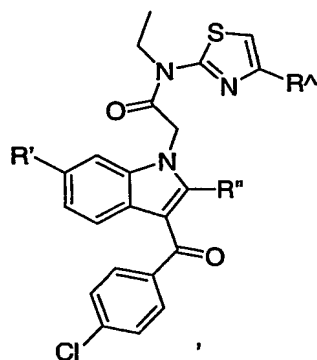
and R<sup>A</sup> represents hydrogen or methyl;

5

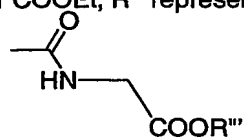
Table 4



R represents methyl or methoxy and R\* represents methyl, H or COOH;



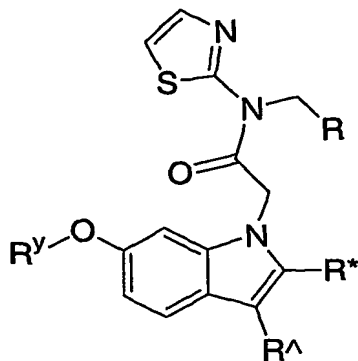
R' represents methyl or methoxy; R<sup>A</sup> represents hydrogen or COOEt; R''' represents COOH or COOtBu; and R'' represents: COOMe, H, COOH, or




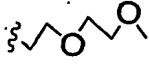
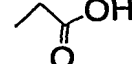
10

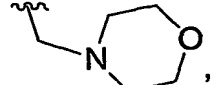
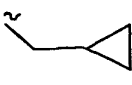
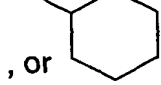


Table 5

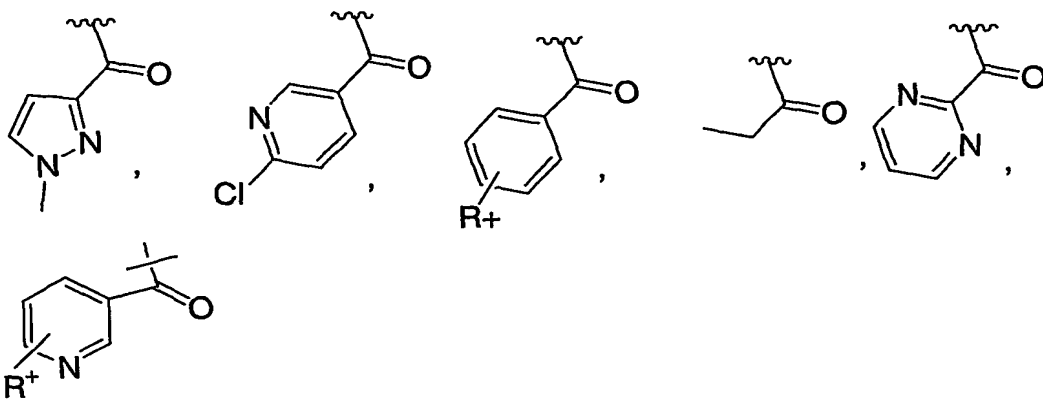


$R^*$  represents hydrogen or methyl;

$R^y$  represents methyl or  $CF_3$ ; , , 

$R$  represents methyl,  $(CH_2)_2SCH_3$ , , , or 

$R^A$  represents:



$R^+$  represents:

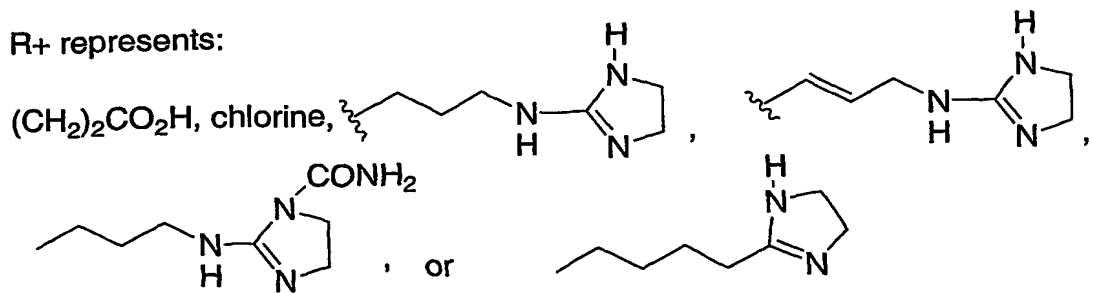
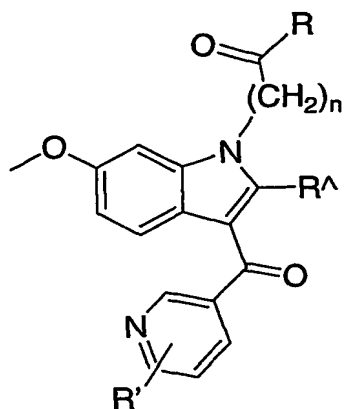
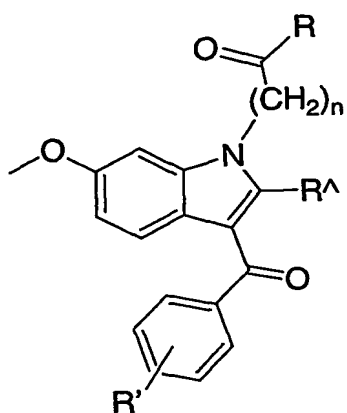


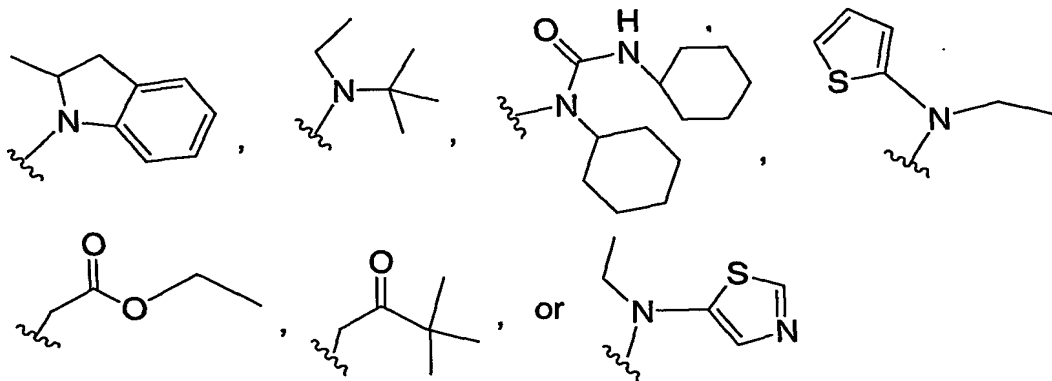
Table 6



Wherein n represents 1-2;

R<sup>^</sup> represents hydrogen or methyl

R represents:



and R' represents:

chlorine,

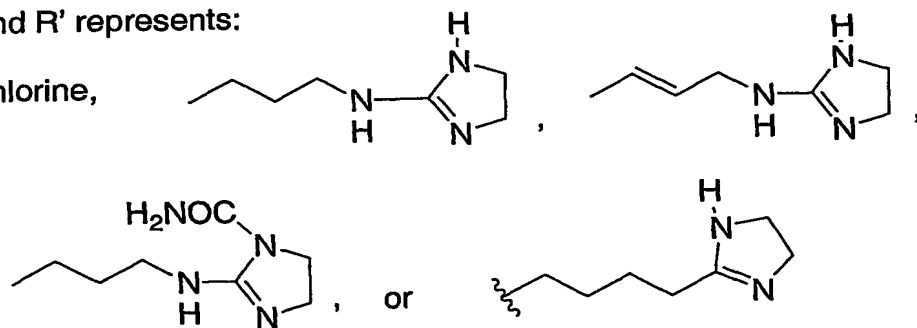
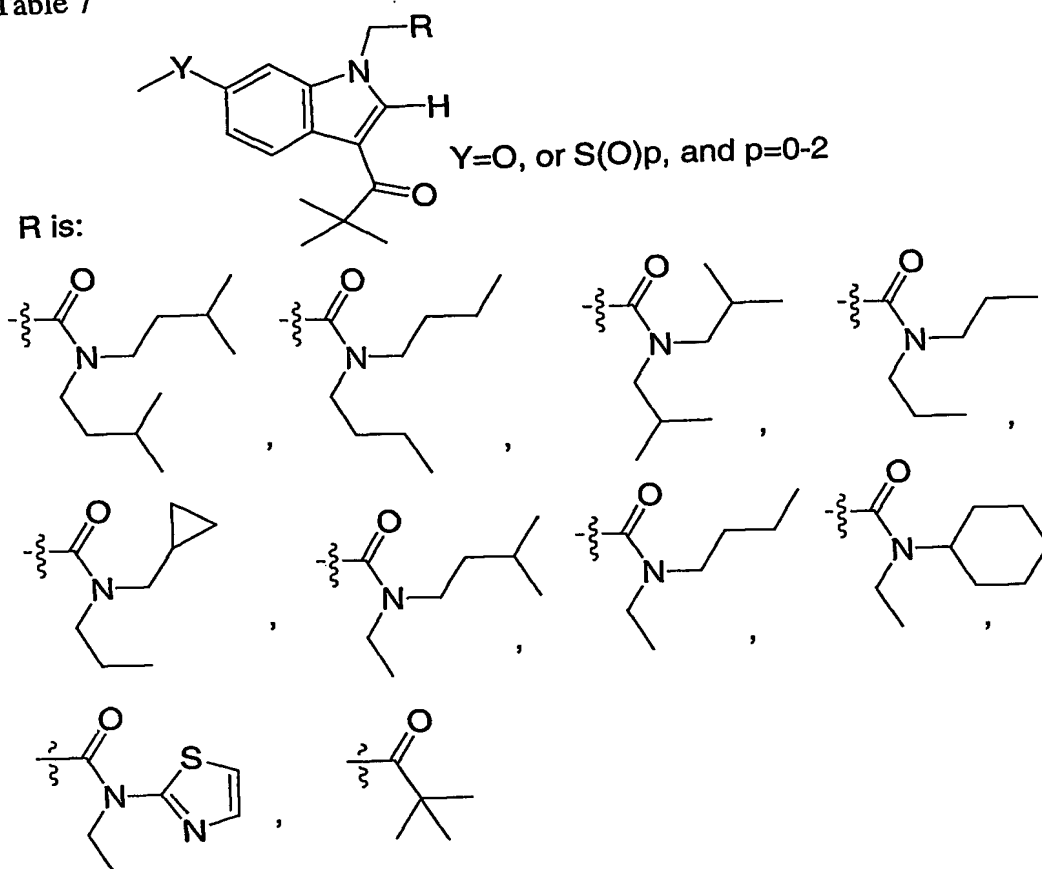


Table 7

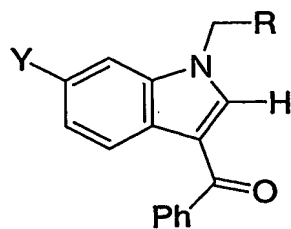


5

10

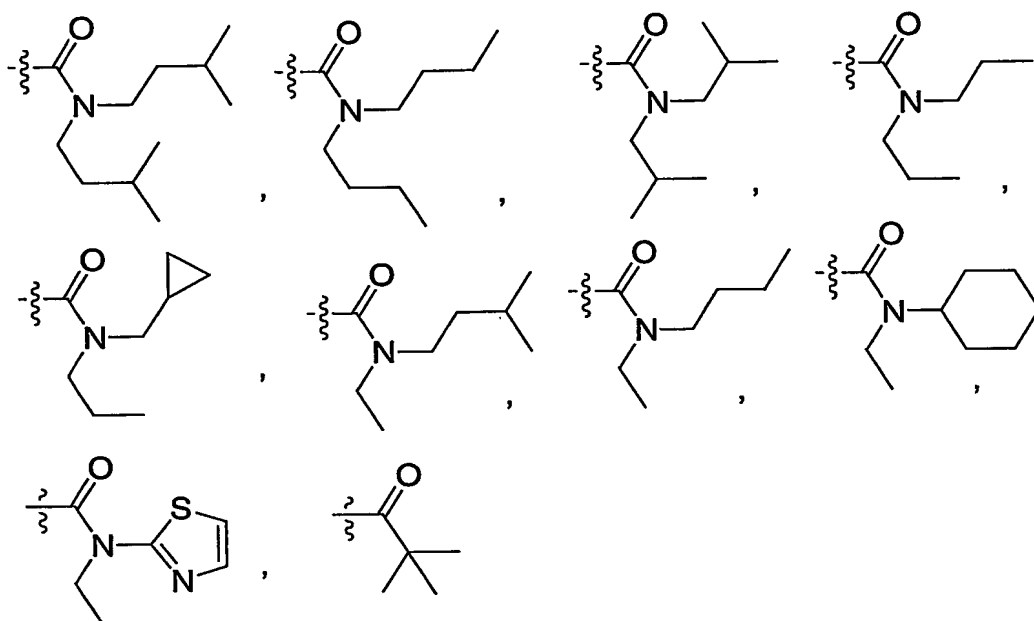
15

Table 8



Y = OCH<sub>3</sub>, Cl, Br, CH<sub>2</sub>CH<sub>3</sub>, or CN

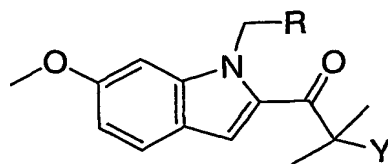
R is:



5

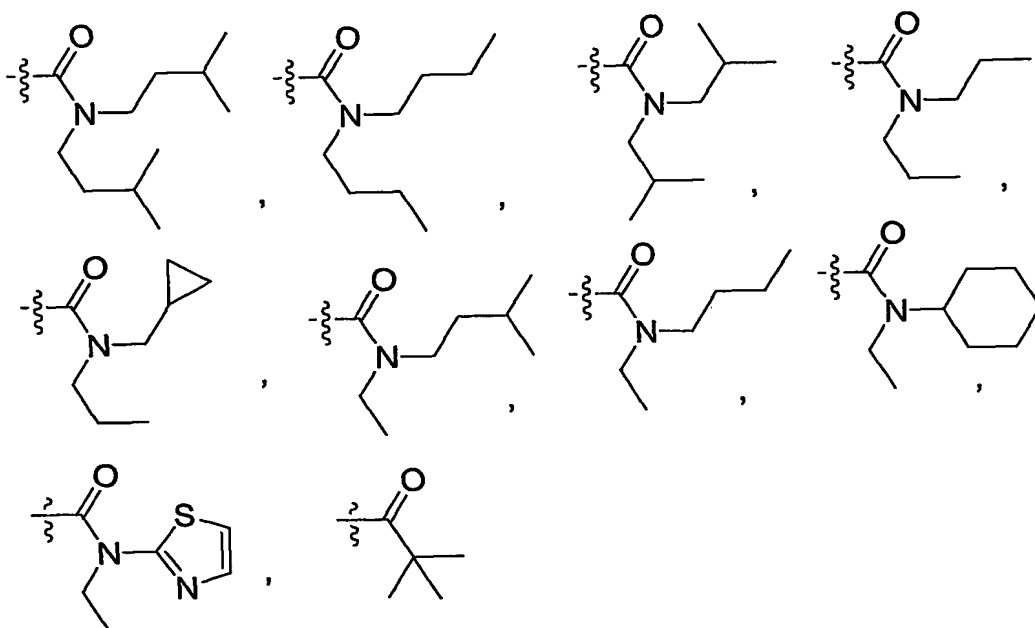
10

Table 9



Y=CH<sub>3</sub> or CH<sub>2</sub>CH<sub>3</sub>

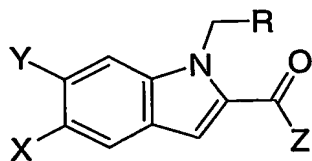
R is:



5

10

Table 10



Y=OCH<sub>3</sub>, CN, or Cl; X=H, or F; Z=Ph, CH(CH<sub>3</sub>)<sub>2</sub>, CH<sub>2</sub>CH(CH<sub>3</sub>)<sub>2</sub>

**R is:**

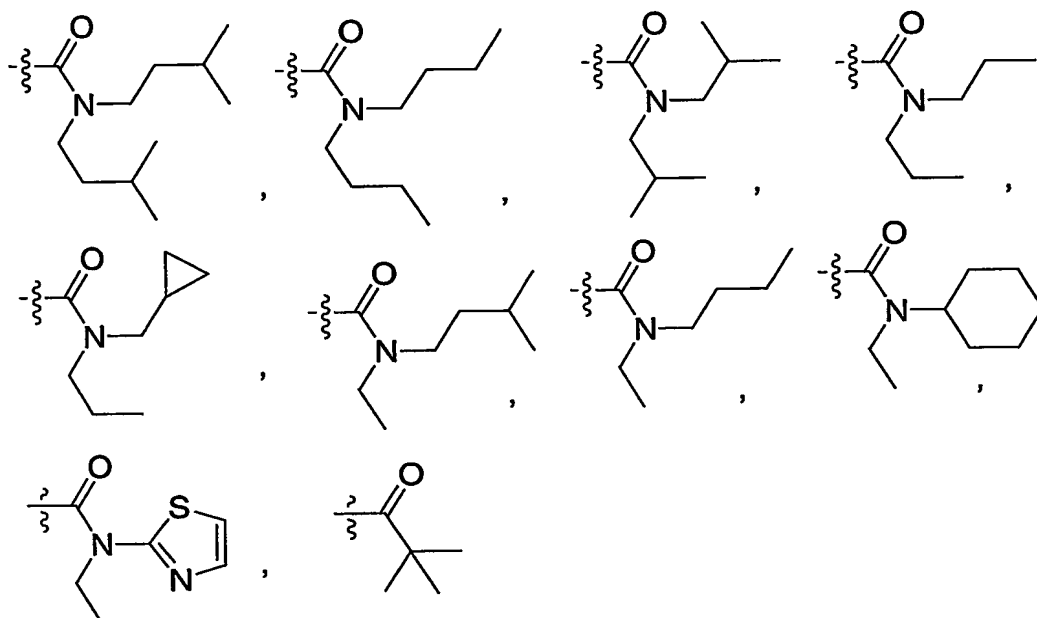
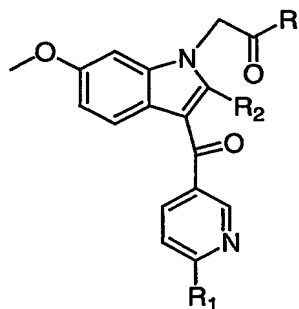
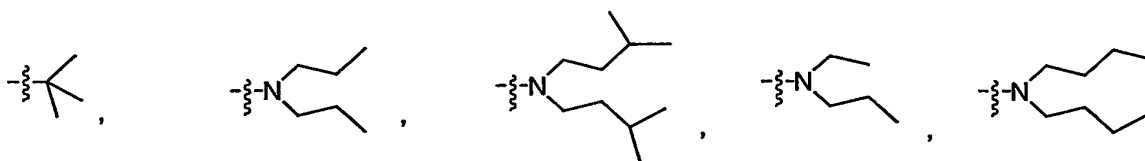


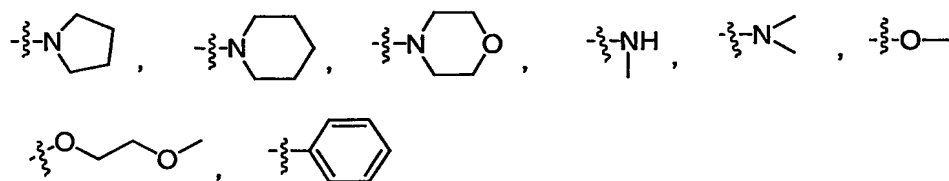
Table 11



Wherein R represents:

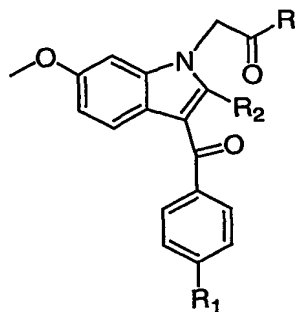


R<sub>1</sub> represents:



R<sub>2</sub> represents: hydrogen or methyl

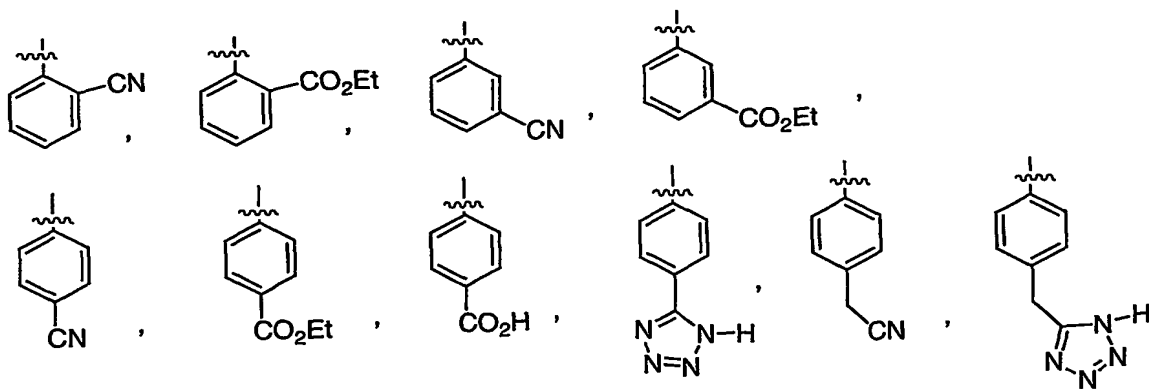
Table 12



Wherein R represents:



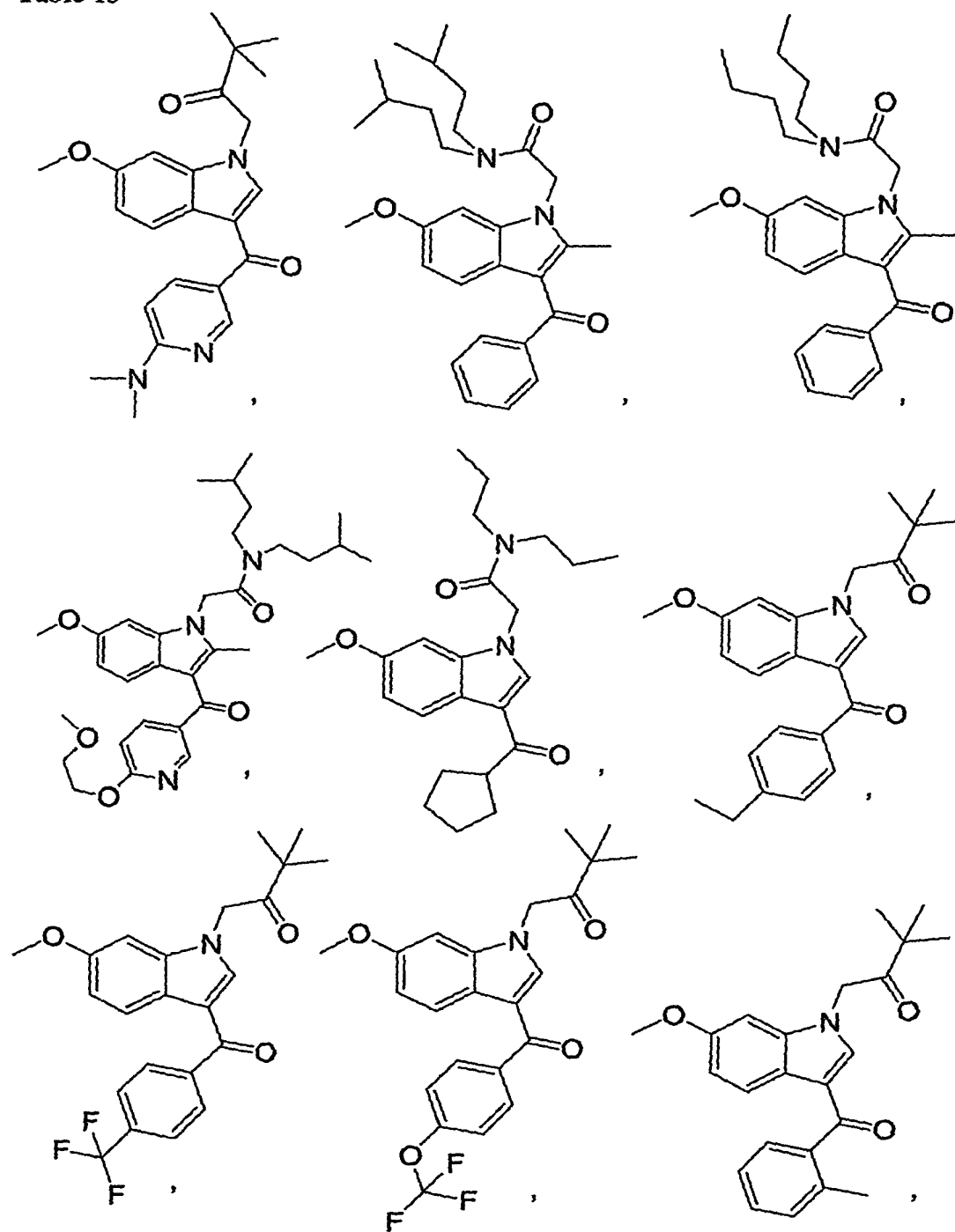
R<sub>1</sub> represents:



R<sub>2</sub> represents: hydrogen or methyl



Table 13



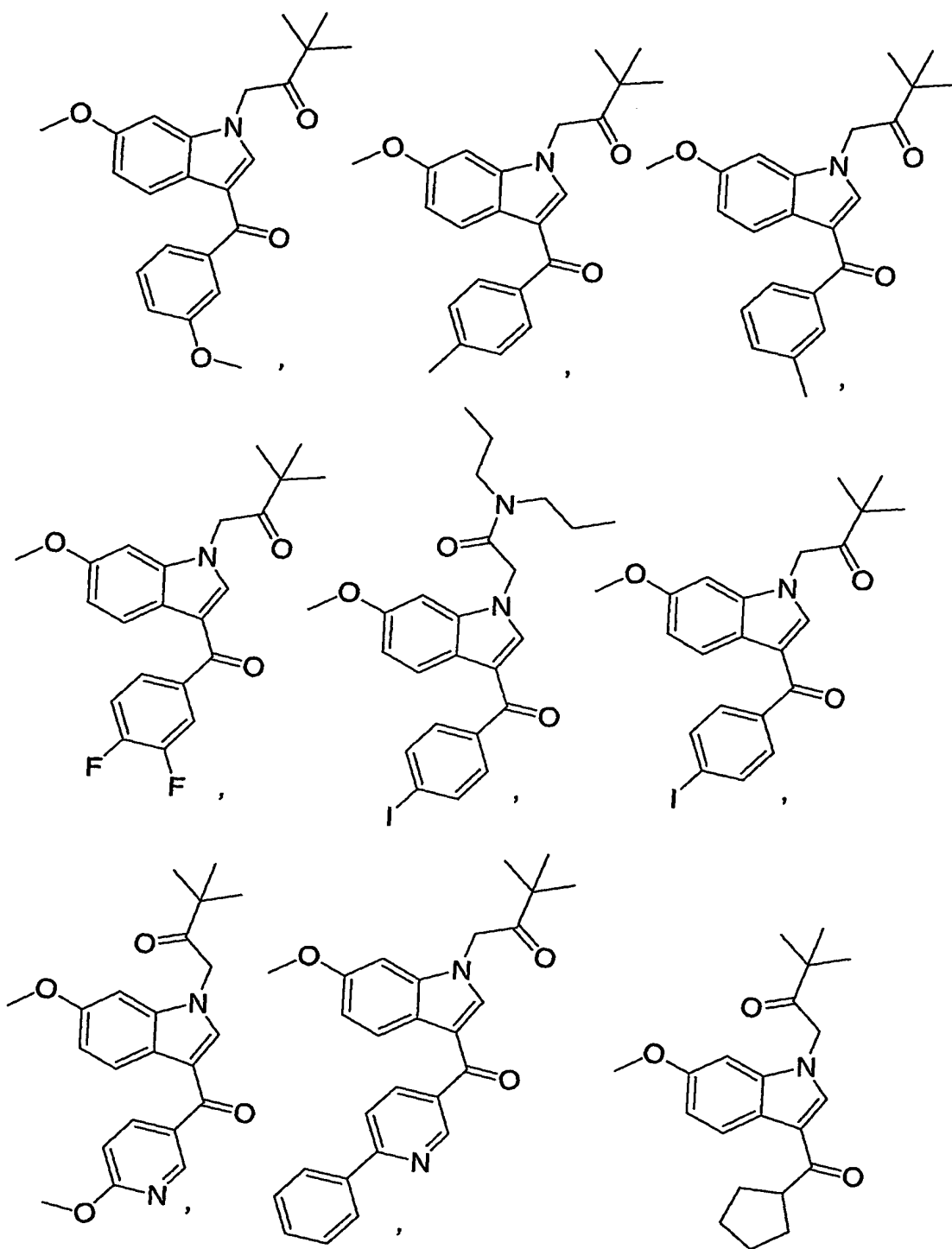
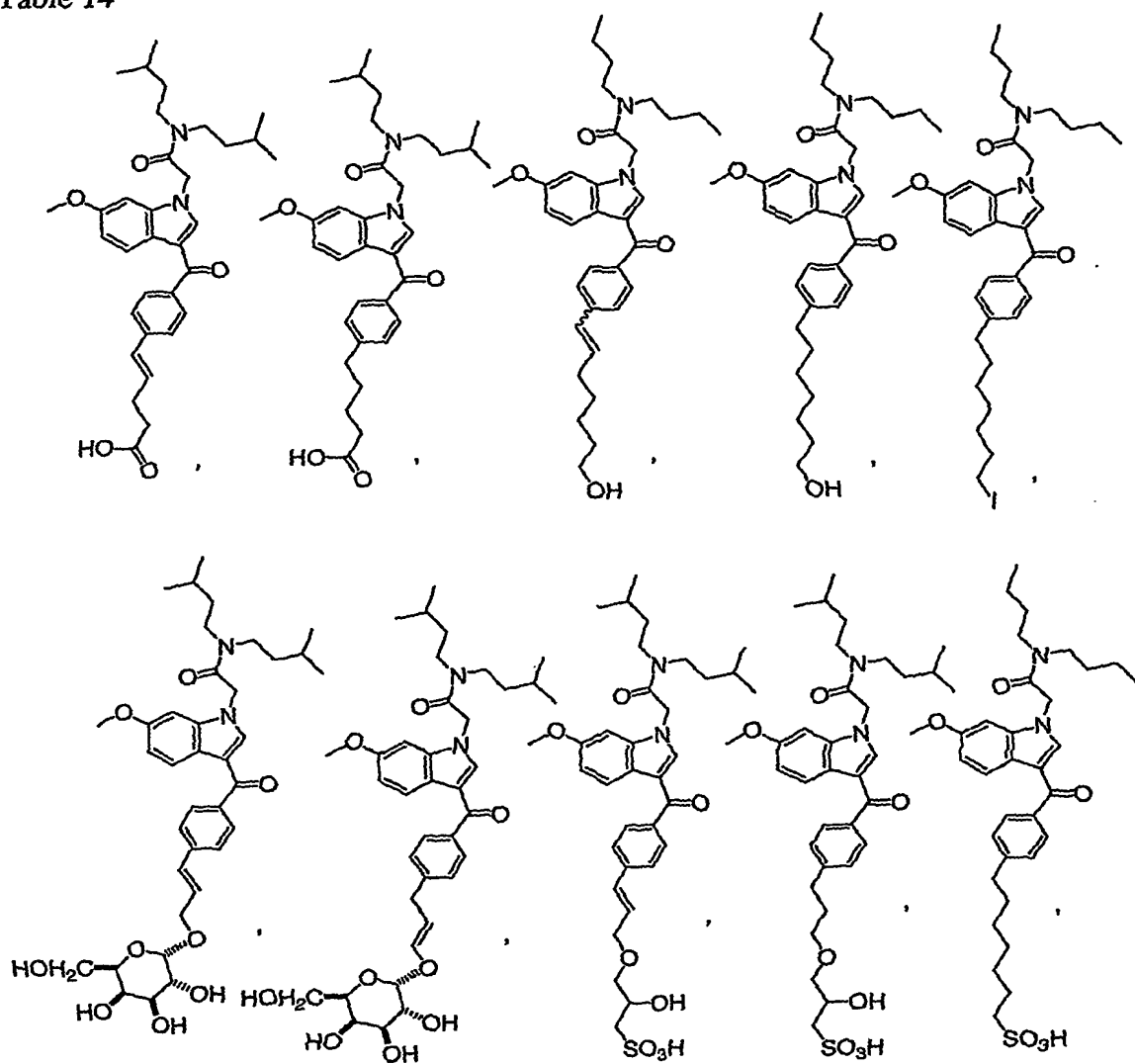
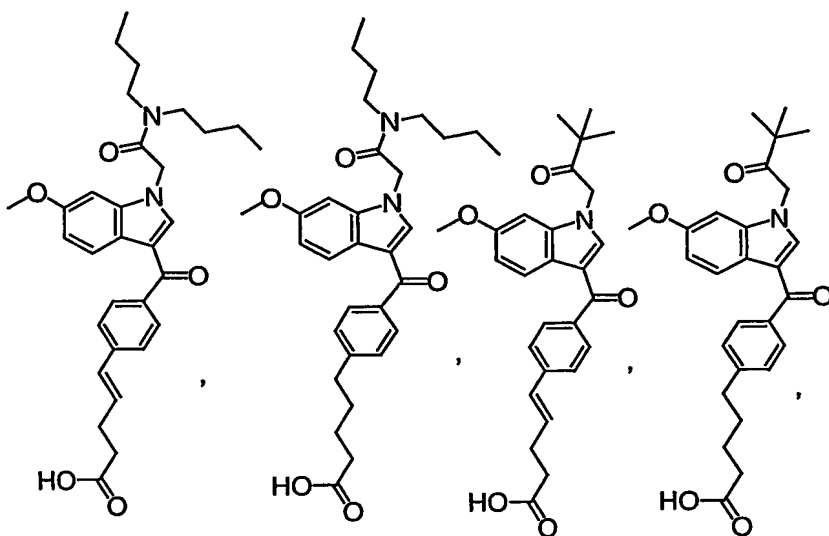


Table 14





or a pharmaceutically acceptable salt, enantiomer, diastereomer or mixture thereof.

12. A method for treating ocular hypertension or glaucoma comprising administration to a patient in need of such treatment a therapeutically effective amount of a compound of claim 1.

13. The method according to Claim 12 wherein the compound of formula I is applied as a topical formulation selected from solution topical formulation and a suspension topical formulation.

14. A method according to claim 13 in which the topical formulation optionally contains xanthan gum or gellan gum.

15. A method according to claim 13 wherein an active ingredient belonging to the group consisting of:  $\beta$ -adrenergic blocking agent, parasympathomimetic agent, EP4 agonist, carbonic anhydrase inhibitor, and a prostaglandin or a prostaglandin derivative is optionally added to the formulation.

16. A method according to claim 15 wherein the  $\beta$ -adrenergic blocking agent is timolol; the parasympathomimetic agent is pilocarpine; the carbonic anhydrase inhibitor is dorzolamide, acetazolamide, metazolamide or brinzolamide; the

prostaglandin is latanoprost or rescula, and the prostaglandin derivative is a hypotensive lipid derived from PGF<sub>2</sub>α prostaglandins.

- 5 17. A method for treating macular edema, macular degeneration, increasing retinal and optic nerve head blood velocity, increasing retinal and optic nerve oxygen tension, and/or providing a neuroprotective effect comprising administration to a patient in need of such treatment a pharmaceutically effective amount of a compound of claim 1; or a pharmaceutically acceptable salt, enantiomer, diastereomer or mixture thereof.
- 10 18. The method according to Claim 17 wherein the compound of formula I is applied as a topical formulation.
- 15 19. A method according to claim 18 in which the topical formulation optionally contains xanthan gum or gellan gum.
- 20 20. A method of preventing repolarization or hyperpolarization of a mammalian cell wherein the cell contains a potassium channel comprising the administration to a mammal, including a human, in need thereof, of a pharmacologically effective amount of a compound according to claim 1, or a pharmaceutically acceptable salt, enantiomer, diastereomer or mixture thereof.
- 25 21. A method of treating Alzheimer's Disease, depression, cognitive disorders, arrhythmia disorders and/or diabetes in a patient in need thereof comprising administering a pharmaceutically effective amount of a compound according to Claim 1, or a pharmaceutically acceptable salt, enantiomer, diastereomer or mixture thereof.